

WHAT IS CLAIMED IS:

1 1. A system of open top trays of variable heights arranged to be stacked and releasably locked together in any arrangement independent of the individual tray heights, the trays in a stacked position defining a common interface datum plane between adjacent trays, each tray comprising:

5 a bottom and longitudinal and transverse perimeter walls terminating in an upper rim defining an opening through which articles may be placed in and removed from the tray, the perimeter walls being inclined outwardly with respect to the vertical with the rim of each tray having the same dimensions regardless of the height of the tray;

10 an axle spaced outwardly from each transverse wall to accommodate a rotatable latch handle mounted thereon, the axle being located below the datum plane by a first predetermined distance d_1 ;

 a latch hook protruding outwardly from each transverse wall and located above the datum line a second predetermined distance d_2 ; and

15 a latch handle rotatably mounted on each axle, the latch handle having a locking tab arranged to engage the associated latch hook of an above positioned tray when the latch handle is rotated to a closed position.

1 2. The system of claim 1 wherein the peripheral walls include an inwardly stepped section joined to the bottom with the stepped section providing a mating interface with the upper edge of the peripheral walls of a below positioned tray and defining the datum plane so that when the trays are in a stacked relationship the peripheral walls of each container are substantially aligned.

1 3. The system of claim 2 wherein the transverse walls have a recessed center section and
wherein the axles and latch hooks are positioned in the center sections.

1 4. The system of claim 2 wherein each latch handle terminates at one end in the shape of an
inverted j-hook defining a groove arranged to fit over the associated axle and terminates at the other
end in a finger engaging surface with any intermediate inwardly extending locking tab, the j-hook
portion defining a convenient handle for carrying one or several stacked trays.

1 5. The system of claim 4 wherein the longitudinal peripheral walls of the tray define a
plurality of vertically oriented opposing divider receiving guides.

1 6. The system of claim 5 wherein each guide is formed by a pair of elongated opposed
generally semicylindrical sections defining a narrow slot therebetween.

1 7. The system of claim 2 wherein the distance d_3 between the axles and the distance d_4
between the latch hooks are the same regardless of the height of the tray.

1 8. The system of claim 2 further including a cover having longitudinal and transverse
perimeter sections with the transverse sections having a recessed center portion with a protruding
latch hook on each transverse center portion section, the perimeter sections defining an overcut
portion adjacent the bottom thereof with a horizontally oriented shelf arranged to engage the rim of
5 an underlying tray, the latch hook being positioned above the shelf by the distance d_2 .

1 9. The system of claim 8 wherein the perimeter sections of the cover further define an
overhanging vertically oriented skirt arranged to extend over the outside of the upper portion of the
perimeter walls of an underlying tray.

1 10. The system of claim 9 wherein a rotatable handle is mounted on the top of the cover.

1 11. An assembly of compartmentalized trays of variable heights arranged to be stacked and
releasably locked together, each tray comprising:

 a bottom and longitudinal perimeter walls and transverse perimeter walls with
the perimeter walls being inclined outwardly at angle θ and terminating in an upper
5 rim defining an opening through which articles may be placed in and removed from
the tray, each transverse wall having a central section;

 a plurality of dividers mounted in the tray to form individual compartments;

 an axle positioned adjacent the upper edge and spaced from the central
section of each transverse wall to accommodate a rotatable latch handle mounted
10 thereon;

 a latch hook protruding outwardly from each transverse wall adjacent the
bottom in vertical alignment with the axle; and

 a latch handle rotatably mounted on each axle, the latch handle having a
locking tab arranged to engage the associated latch hook of an above positioned tray
15 when the handle is rotated to a latched position.

1 12. The container assembly of claim 11 wherein θ is within the range of about $.5^\circ$ to 2° .

1 13. The container assembly of claim 12 wherein the peripheral walls include an inwardly
stepped section joined to the bottom with the stepped section accommodating the rim of another
container so that when the containers are in a stacked relationship the peripheral walls of each
container are substantially aligned.

1 14. The container assembly of claim 13 wherein each latch handle defines a groove at one end which fits over the associated axle, a finger engaging surface at the other end and an intermediate locking tab.

1 15. The container assembly of claim 14 wherein each transverse perimeter wall is formed with an inwardly stepped center section with the axle extending across the center section adjacent the upper edge and an outwardly extending latch hook disposed in the center section adjacent the bottom.

1 16. A system of open top trays of variable height arranged to be stacked and releasably locked together in any arrangement independent of the individual tray heights, the trays in a stacked position defining a common interface datum plane between adjacent trays, each tray comprising:

5 a bottom and longitudinal and transverse perimeter walls terminating in an upper rim defining an opening through which articles may be placed in and removed from the tray, the perimeter walls being inclined outwardly with respect to the vertical with the rim of each tray having the same dimensions regardless of the height of the tray;

10 a latch handle rotatably mounted on each transverse perimeter wall about an axis located below the datum plane by a first predetermined distance d_1 ; and

 a latch hook protruding outwardly from each transverse wall and located above the datum line a second predetermined distance d_2 , the latch handle having a locking tab arranged to engage an associated latch hook of an above positioned tray when the latch handle is rotated to a closed position.

1 17. The invention of claim 16 wherein the latch handle is formed with a central section and
a stub axle extending outwardly from the central section along the axis of rotation and wherein the
transverse perimeter walls define opposed openings for receiving the stub axles.

1 18. The invention of claim 17 wherein the transverse perimeter walls include a recessed
center section located between perpendicularly extending side walls, the side walls defining the
openings for the latch handle stub axles.

1 19. The system of claim 18 wherein the peripheral walls include an inwardly stepped section
joined to the bottom with the stepped section providing a mating interface with the upper edge of
the peripheral walls of a below positioned tray and defining the datum plane so that when the trays
are in a stacked relationship the peripheral walls of each container are substantially aligned.

1 20. The system of claim 19 wherein the longitudinal peripheral walls of the tray define a
plurality of vertically oriented opposing divider receiving guides.

1 21. The system of claim 20 further including a cover having longitudinal and transverse
perimeter sections with the transverse sections having a recessed center portion with a protruding
latch hook on each transverse center portion section, the perimeter sections defining an overcut
portion adjacent the bottom thereof with a horizontally oriented shelf arranged to engage the rim of
5 an underlying tray, the latch hook being positioned above the shelf by the distance d_2 .